

Professional Cinema System 133/136

Screen channel speakers

Overview

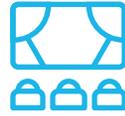
Design goals

At Dolby® Laboratories we are continually striving to bring the best immersive experiences to our audiences. With that in mind we have engaged our sound engineering, industrial design, and field installation teams to deliver the first-ever Dolby branded, premium large-format speaker system.

These systems bring exceptional performance along with measurable value to exhibitors seeking to elevate their customers' overall theatrical experience. These new screen channel speakers are representative of the quality and innovation shown in the rest of the Dolby Professional Cinema product line.

After an exhaustive research and ideation process, we began to develop a list of design goals that were the culmination of feedback and commentary gathered from the cinema industry, including content creators, installers, exhibitors, and finally from movie attendees.

Through this process we were able to create a unique design criteria that was specific to the needs of PLF (Premium Large Format) screens world-wide. In this highly competitive age where PLF drives much of the revenue for a cinema complex, Dolby cinema speakers create a differentiating advantage for exhibitors.



Great sound in every seat

Shaped coverage of the seating area with improved broadband off-axis frequency response helps virtually eliminate inconsistent audio experiences at the edges of the seating area.



More pleasing audio delivery

Less distortion in key frequency bands associated with listener discomfort while providing greater detail and intelligibility.



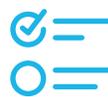
Simplified installation & deployment

Enabling seamless integration with Dolby's entire immersive cinema product ecosystem, ensuring reliable performance and an exceptional theatrical experience.



Enhanced low-frequency

Extended low frequency response that allows impact without excessive listening fatigue.



Reliability and quality assurance

Improved product reliability (adhering to UL and AES standards).



Ecosystem



SYSTEM 136



**CP950
Processor**



**CS136MH
Dual-entrant asymmetrical horn**

The Dolby professional ecosystem

Our new Dolby System 136 and System 133 PLF screen channel speaker systems are designed to be used and integrated within other Dolby Professional Cinema Products to provide a “best-in-class” experience.

These speakers share the same quality and reliability that has become a benchmark for our entire professional cinema product portfolio.

The new Dolby speakers are built for use in the most demanding Dolby Atmos, Dolby Surround 7.1 or other installations. They are a perfect compliment to Dolby Cinema Audio Processors, Dolby Multichannel Amplifiers, and the IMS3000 Server. Complete the soundscape in your auditorium with surround, bass-management and subwoofer speakers from Dolby/SLS.

Servers, amplifiers and processors



IMS3000 Integrated Media Server

Integrated Media Servers

A robust platform for today, the right investment for tomorrow

Built on a proven platform, the IMS3000 Integrated Media Server provides you with cost-effective and reliable performance in PLF or standard cinemas and backed by Dolby’s industry leading technology and support.

The IMS3000 comes with a robust feature set and flexible storage options. The IMS3000 has an internal cinema processor that can be used for 5.1, Dolby Surround 7.1, or Dolby Atmos playback. If an external audio processor is desired, the CP950 or CP850 integrate quickly and easily with the server.

The IMS3000 remains the platform of choice for current and next generation server deployments.



Digital Multichannel Amplifier

Digital Multichannel Amplifiers

Save space, reduce heat, amplify sound

The DMAs are available in three configurations:

- 24 channels (DMA24302)
- 32 channels (DMA32301)
- 16 channels (DMA16302)

The 16 channel and 24 channel models have an 8-channel analog input module for use with analog cinema sound processors used in 5.1/7.1 surround sound installations. When using newer processors like the CP850 or CP950, the connections are made with Ethernet cable, greatly simplifying the installation process.

The Dolby Multichannel Amplifier automatically detects maximum and net power availability, as well as certain operational and environmental conditions, and adjusts channel gains based on power supply, load and fault conditions.

With class D amplification, a custom power supply, and reliability built in, the Dolby Multichannel Amplifier is designed to deliver high-performance audio quality on every channel.



CP950 Processor

Cinema Processors

An upgradeable, feature-rich audio processor for your cinema

The Dolby Cinema Processor CP950 is the newest innovation in Dolby’s market-leading lineage of cinema processors. It’s designed with more of the capabilities you want – and less of those you don’t – in a flexible, modular, cost-efficient solution.

The CP950 supports our most seamless means of installing 5.1 and Dolby 7.1 surround, and includes an expansion slot for future upgradability to Dolby Atmos* to deliver the most memorable and creatively accurate sound experience for your guests.

Screen channel speakers

System 136 and System 133

Superior coverage. Lower distortion deeper bass

Dolby is proud to introduce the new **System 136** and **System 133** screen speakers for premium large-format cinemas. These speakers have been meticulously designed to deliver the world's best immersive cinema experiences for which Dolby is known. The System 136 and 133 will remind your customers why they come to the cinema, and will keep them coming back again and again for that thrilling experience that only Dolby can offer.



SYSTEM 136
Shown with optional
(BKT.FLR) floor brackets

SYSTEM 133
Shown with optional
(BKT.FLR) floor brackets

Key features

- Dual-entrant asymmetrical horn
- Custom ring radiator midrange compression driver
- Low THD high-frequency compression driver
- Baltic Birch LF cabinet construction
- Advanced input plates
- Intuitive tilt and pan mechanisms
- Laser alignment capability
- Pre-assembled horn design
- Shallow installation depth

The **Dolby System 136**, (above left) consisting of (1) CS136MH and (2) CS136LF units, delivers consistent audio coverage for PLF venues including Dolby Atmos® rooms up to approximately 165 feet (50.3 m) in depth.

System 133 (above right) consisting of (1) CS136MH and (1) CS136LF unit, offers the same great performance, in a system designed for slightly smaller rooms of approximately 124 feet (37.8 m) in depth.

Both speakers use custom compression-driver technology, superior enclosure design and higher-quality woofers. With intuitive ergonomic design and features, the Dolby System 136/133 allow for quick, easy installation and service.

Built on the foundation of Dolby's industry-leading system design and support philosophy, the Dolby System 136/133 provide elevated PLF performance for your cinema.

Dual-entrant asymmetrical horn



CS136MH
Dual-entrant asymmetrical horn

Horn design

Every customer deserves to have the same great sound regardless of where they're sitting. With Dolby's patented **asymmetrical, dual-entrant waveguide and high crossover point** you can be sure that the seats at the edges of the theater sound just as good as the seats in the middle. By coupling the drivers closer together and exiting the sound through the same waveguide, much of the interference between the drivers is eliminated, enabling smooth, full-bandwidth sound being delivered evenly across the entire audience.

As the SPL coverage plots (right) show, a conventional design with excessive vertical spacing of drivers, coupled with traditional crossover points, yield significant gaps in the primary vocal range coverage throughout the auditorium (Fig. 1).

With drivers in closer vertical proximity, and a crossover point occurring well outside the primary vocal range, the CS136MH produces excellent coverage at both its 4kHz crossover frequency (Fig. 2) and in the primary vocal dialog range (Fig. 3).

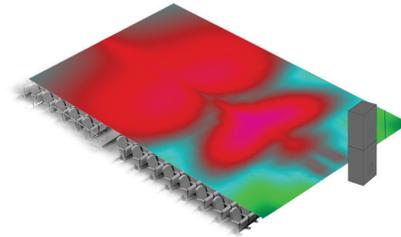


FIG. 1
CONVENTIONAL DESIGN
Performance in the primary vocal dialog range

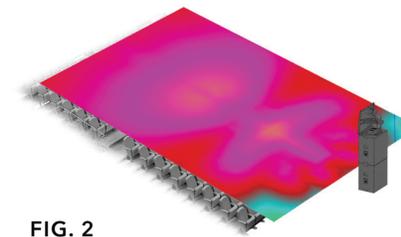


FIG. 2
DOLBY CS136MH AT THE 4KHZ CROSS-OVER
Outside the primary vocal dialog range

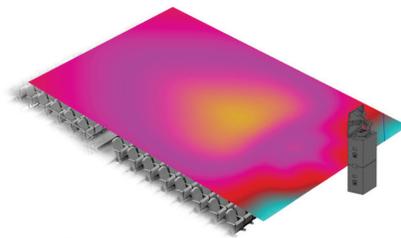
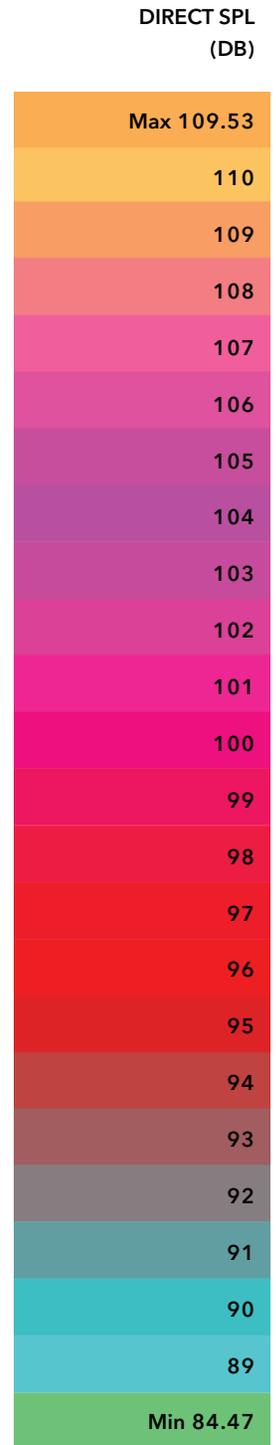


FIG. 3
DOLBY CS136MH
Primary vocal range



Dual-entrant asymmetrical horn, cont.

Designed for today's Cinematic PLF Auditoriums

The CS136MH's asymmetrical coverage pattern was calculated with careful consideration and input from the PLF exhibition community regarding average auditorium size and seating configuration. With a horizontal coverage pattern of 55° at the top flaring to 100° at the bottom, this horn geometry (Fig. 4) delivers consistent coverage for the entire venue while delivering uniform volume shading (the minimizing of front, to rear seat volume changes). Finally, great coverage in the rear of the room without overpowering the front rows!

The complex geometry of the horn, combined with its sculpted front edge and smaller footprint, allows for variations in vertical aiming (up to 20° allowable down-tilt) while maintaining closer speaker/screen proximity, which optimizes space and helps to reduce high-frequency reflections and other screen scatter effects (Fig. 5).



SYSTEM 136
Shown with optional BKT.FLR floor bracket kit

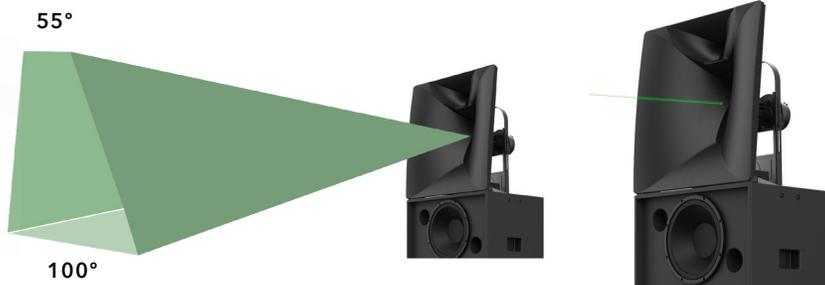


FIG. 4 Asymmetrical coverage pattern & laser through-hole

Laser aiming capability

Intuitive vertical and horizontal adjustment mechanisms make proper alignment of the CS136MH quick and easy. Convenient laser pointer cradles are placed on either side of the back of the horn and aligned with through-hole sights making accurate aiming possible with the use of a common laser pointer.

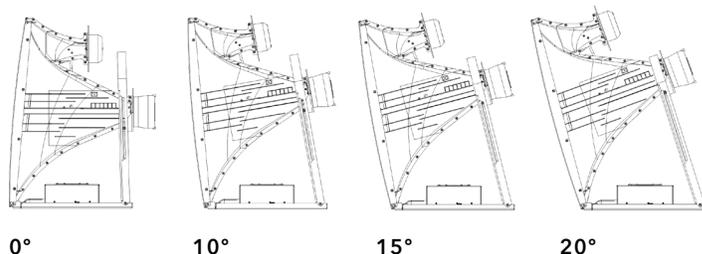


FIG. 5 Vertical down-tilt

High quality drivers and components



**1.4" HIGH FREQUENCY
COMPRESSION DRIVER**
8 Ohms



**2" MID FREQUENCY
RING RADIATOR COM-
PRESSION DRIVER**
8 Ohms

Quality hi-frequency compression driver

A great sounding cinema experience delivers immersion and realism, placing sound effects and foley into the soundstage with clarity and definition. For the high frequency section of the CS136MH, Dolby selected a driver that exhibits superb performance in the articulation range, exhibiting a significant reduction in distortion over many conventional designs, enhancing detail while reducing listener fatigue as well as complaints about the sound being "too loud".

The graph below (Fig. 6) illustrates a significant reduction of Total Harmonic Distortion (THD) in the 6-10kHz range as well as consistent, uniform performance when compared to many conventional HF driver designs.

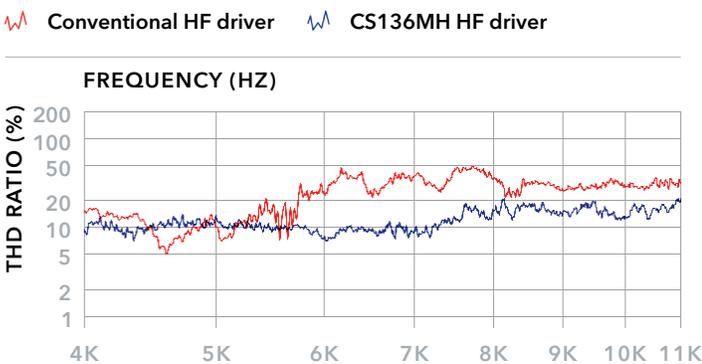


FIG. 6 Total Harmonic Distortion

Custom ring radiator mid-range driver

Nothing showcases a great new feature like clean, articulate dialog. The CS136MH features a single custom ring-radiator midrange driver. Rather than dividing the primary vocal frequencies between several drivers, the Systems 133 and 136 rely on only one driver for these frequencies, greatly enhancing sensitivity, power handling and most importantly, intelligibility.

A custom ring radiator mid-range compression driver facilitates the use of a lower LF/MF crossover as well as a higher, MF/HF crossover frequency, thereby covering the entire primary vocal-range (400Hz-4kHz) with one device.

Many designs employ conical paper-cone woofers to satisfy a lower 250Hz LF/MF crossover but doing so limits the MF/HF crossover to a frequency occurring within the primary vocal-range. The additional crossover point challenges of phase, time alignment and coverage, (especially with passive solutions) often end up compromising faithful performance through the primary dialog frequencies.

By employing ring radiator driver technology with its broad frequency spectrum, all crossover points occur well outside the dialog range, greatly enhancing sensitivity, power handling coverage and intelligibility.

High quality drivers and components, cont.

PASSIVE OR BI-AMP MODE



CS136MH ADVANCED INPUT PLATE

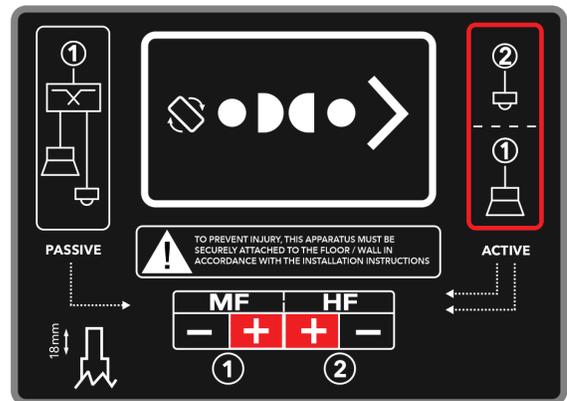


CS136MH Advanced Input Plate and Crossover

The **CS136MH** is equipped with a passive crossover as well as an advanced input plate featuring a high-current, spring-loaded terminal block and a unique flip-card PCB for electrical routing.

An installer can simply rotate the flip-card pointing the arrows to the desired setting, either passive routing through the included crossover, or to a direct to driver, bi-amp configuration. The spring loaded terminal block requires no spade lugs or crimping tools for connection during installation.

The entire CS136MH ships pre-assembled and mounts directly to the top of the CS136LF module where independent tilt (max 20° down-tilt/15° up-tilt) and pan (20° left or right) is easily adjustable using a simplified aiming mechanism.



FLIP CARD PLACED IN BI-AMP MODE

CS136LF Low-frequency screen module



CS136LF
Single module

PARALLEL OR DIRECT MODE



Speaker innovation

The Dolby **CS136LF** is our newest low-frequency screen channel speaker innovation.

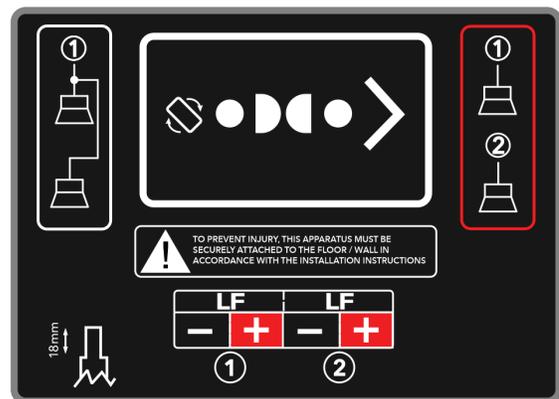
Hand-built using Baltic Birch, the CS136LF includes (2) 15" high-performance transducers that were designed using advanced Finite Element Modeling (FEM) and feature massive magnetic motors and robust cast aluminum baskets. Exceptional internal bracing and finely tuned port design facilitate reduced distortion and faithful low-frequency delivery as well as years of dependable service.

With intuitive ergonomic design features like balance-centered handles, shallow depth and a side loading input plate, the Dolby CS136LF allows for quick unpacking, safe handling, simplified installation and easy access for future service. Rubber feet on each cabinet align with recessions to help center the cabinets when stacking, and provide overall vibration control.

The close spacing of the woofers combined with the individual processing of each cabinet (System 136 configuration) improves overall throw distance and vertical dispersion of the system.

The CS136LF features a high-current, spring-loaded terminal block requiring no spade lugs or crimping tools for connection during installation.

As with the CS136MH, the CS136LF input plate also includes a flip-card PCB. Changing the orientation of this card will select either parallel (4 Ohms) enabling single amplifier channel operation, or direct to individual driver (8 Ohms) configuration where each driver is driven by a separate amp channel.



LF FLIP CARD PLACED IN INDIVIDUAL MODE

CS136LF Low-frequency screen module, cont.

CS136LF installation tie plate and floor bracket kits

The System 136 uses two CS136LF speakers. Due to the high levels of sound and vibration, tie plates are used to connect the two cabinets together. One tie plate kit containing two plates and washers (Fig. 7: Dolby Part Number BKT.136) is shipped with the system.

The Floor bracket kit containing two brackets and washers (Fig. 8: Dolby Part Number BKT.FLR) is sold separately and used to connect the speaker stack to the mounting surface, normally a speaker platform.

Note: BKT.FLR – Floor bracket kit (sold separately) must be used to secure the entire speaker system to the auditorium mounting surface.*

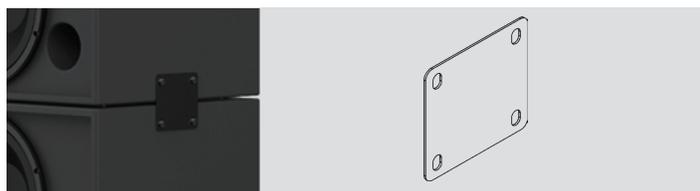
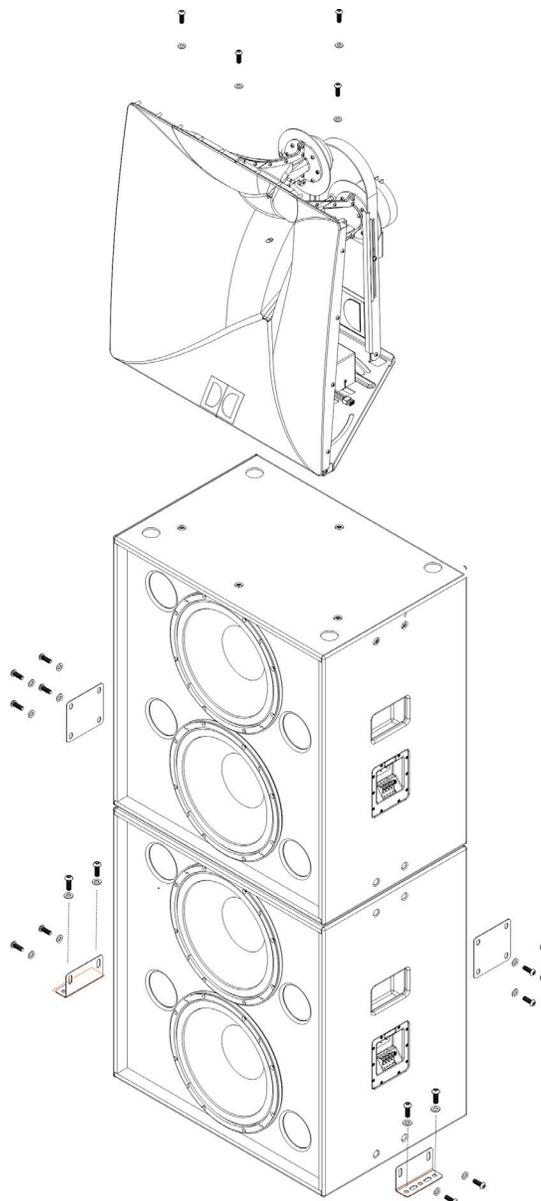


FIG. 7 #BKT.136 Tie plate kit (Included)



FIG. 8 #BKT.FLR Floor bracket kit (Sold separately)



SYSTEM 136 ASSEMBLY
 Showing installation of
 horn to LF cab, tie plates
 and floor brackets

* Sound and vibration from this type of speaker system is high and may cause cabinets to shift. Failure to secure the bottom speaker cabinet to the mounting surface may result in a tip/fall of the entire system which may cause damage or injury. Proper selection of mounting hardware is not included and proper assembly and installation of mounting hardware, including, but not limited to, selection of appropriate weight bearing support and bracket use is the exclusive responsibility of the installer. Dolby disclaims any liability, including damage or injury, for the selection of i) non-Dolby manufactured mounting hardware or ii) third-party manufactured mounting hardware not previously approved in writing by Dolby, and/or bracket installation. Any modification to the speaker system hardware provided by Dolby (i.e., mounting by drilling holes into the speaker system) will result in a null and void product warranty.

System 136 crossover configurations

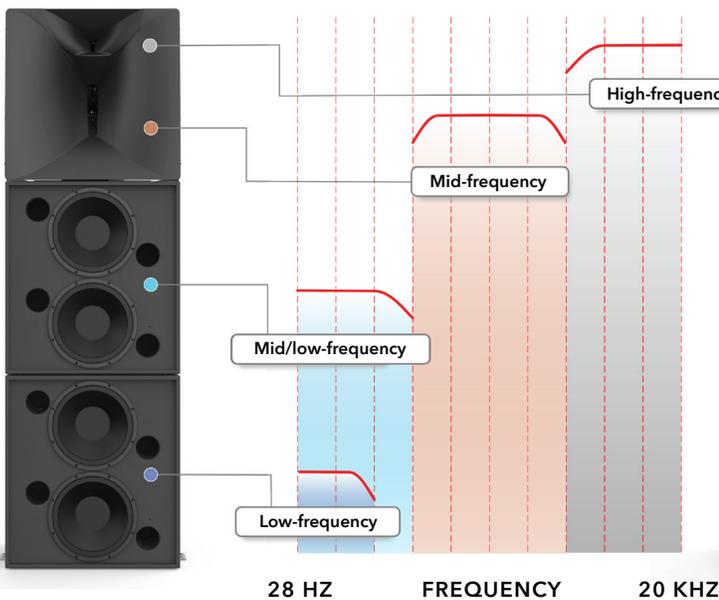


FIG. 9
DOLBY SYSTEM 136 Quad-amp configuration

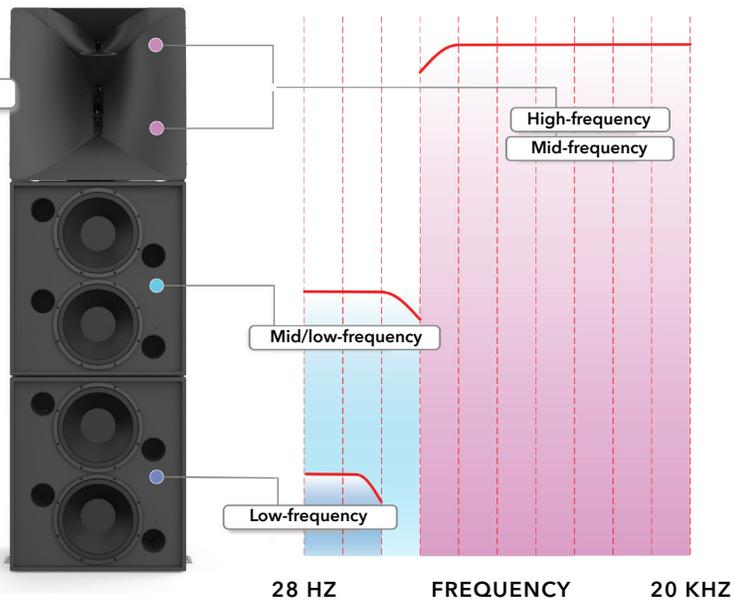


FIG. 10
DOLBY SYSTEM 136 Tri-amp configuration

Quad-amp operation

- CS136MH mid- and high-frequency drivers receive separately processed signals from (2) independent amplifier channels.
- The two CS136LF modules receive different audio frequencies which enhances the coverage in the low and low-mid frequency bands.
- The crossover frequencies (in red) are basic examples of the configuration that will be used in the Dolby Multichannel Amplifier, Dolby Cinema Processor, or a 3rd party processor.

Tri-amp operation

- The CS136MH mid- and high-frequency drivers are connected together using the on-board passive crossover. A single amplifier channel powers both drivers.
- The two CS136LF modules receive different audio frequencies, which enhances the coverage in the low and low-mid frequency bands.
- The crossover frequencies (in red) are basic examples of the configuration that will be used in the Dolby Multichannel Amplifier, Dolby Cinema Processor, or a 3rd party processor.

System 133 crossover configurations

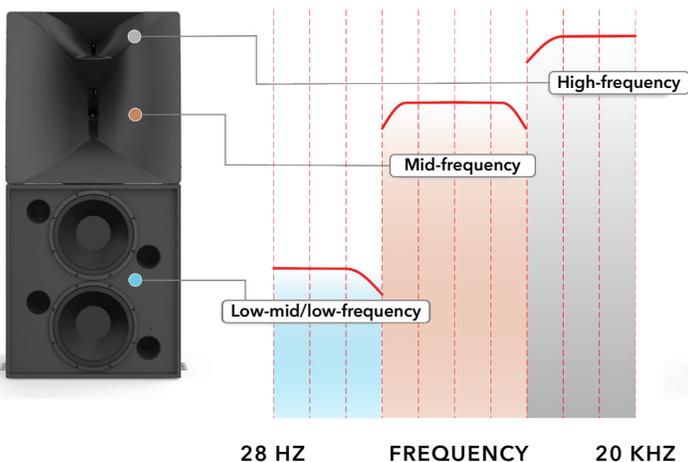


FIG. 11
DOLBY SYSTEM 133 Tri-amp configuration

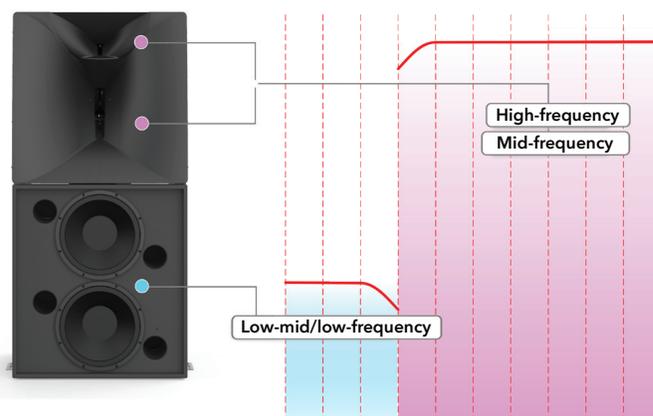


FIG. 12
DOLBY SYSTEM 133 Bi-amp configuration

Tri-amp operation

- CS136MH mid- and high-frequency drivers receive separately processed signals from (2) independent amplifier channels.
- CS136LF single module delivers low-mid and low information using either one amp channel at 4 Ohms powering both woofers, or two amp channels at 8 Ohms powering individual woofers.
- The crossover frequencies (in red) are basic examples of the configuration that will be used in the Dolby Multichannel Amplifier, Dolby Cinema Processor, or a 3rd party processor.

Bi-amp operation

- The CS136MH mid- and high-frequency drivers are connected together using the on-board passive crossover. A single amplifier channel powers both drivers.
- CS136LF single module delivers low-mid and low information using either one amp channel at 4 Ohms powering both woofers, or two amp channels at 8 Ohms powering individual woofers.
- The crossover frequencies (in red) are basic examples of the configuration that will be used in the Dolby Multichannel Amplifier, Dolby Cinema Processor, or a 3rd party processor.

System 136/133 performance



System 133/136 – Using the Dolby DMA

The Dolby Multichannel Amplifier is an advanced, high-density design that can replace up to 16 stereo amplifiers. With less equipment to install, power, and maintain, you get a simpler and more efficient installation.

The Dolby Multichannel Amplifier is available in three configurations, with 16 channels (DMA16302), 24 channels (DMA24302), or 32 channels (DMA32301), and includes enhanced power handling for lower impedance loudspeakers.

Through a variety of mode combinations the DMAs can be configured to achieve optimum performance with both the System 133/136 screen channel speakers in many different room depths.

The tables at right (Fig. 13 and Fig. 14) outline the various bridged/non-bridged and tri-amp/quad-amp channel counts and expected room depth performance.*



Product	DMA non-bridged tri-amp	DMA non-bridged quad-amp	DMA bridged quad-amp	DMA bridged quad-amp + dual driver
Dolby System 136	~ 68.9 ft (~21m) (3 amp channels)	~88.6 ft (~27m) (4 amp channels)	~118 ft (~36 m) (6 amp channels)	~165 ft (~50.3 m) (10 amp channels)

FIG. 13
System 136 DMA configurations



Product	DMA non-bridged bi-amp	DMA non-bridged tri-amp	DMA bridged bi-amp	DMA bridged tri-amp + dual driver
Dolby System 133	~ 54 ft (~16.5m) (2 amp channels)	~54 ft (~16.5m) (3 amp channels)	~72.2 ft (~22 m) (4 amp channels)	~103 ft (~31.4 m) (5 amp channels)

FIG. 14
System 133 DMA configurations

* Approximate auditorium dimensions using industry averages, with 3dB of amp headroom

System 136/133 performance, cont.

Audience coverage (PLF use case)

The coverage plots at right (Figs. 11 - 13) illustrate the coverage achieved using the CS136MH in a PLF auditorium environment measuring 70' (21.3m) wide by 76' (23.2m) deep. The seating slope gains 8.3 meters in height from the front to back row. The speaker (single center channel) height is 24' (7.3m) and is 34.5' (10.5m) from the front row of seats and is aimed with a 1° up-angle. Uniform coverage is experienced at every seat in the venue.

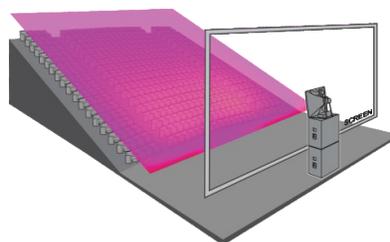
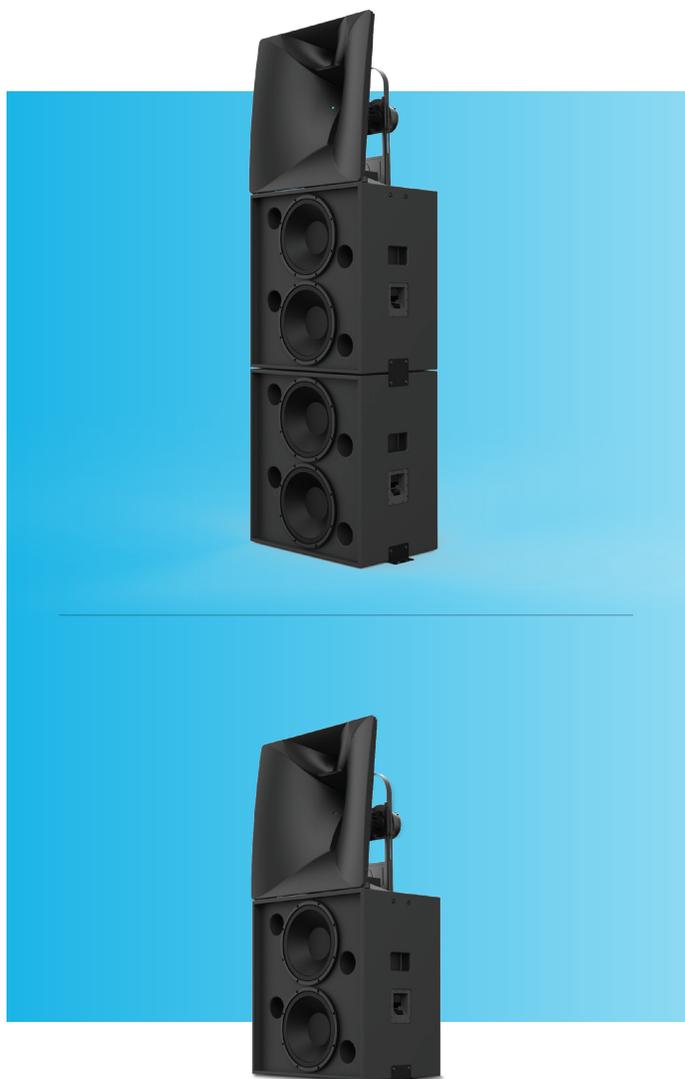


FIG. 11
DOLBY SYSTEM 136
@ 1KHZ

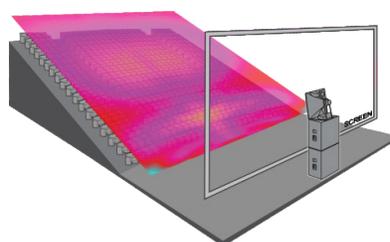


FIG. 12
DOLBY SYSTEM 136
@ 4KHZ

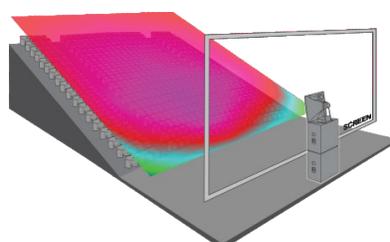
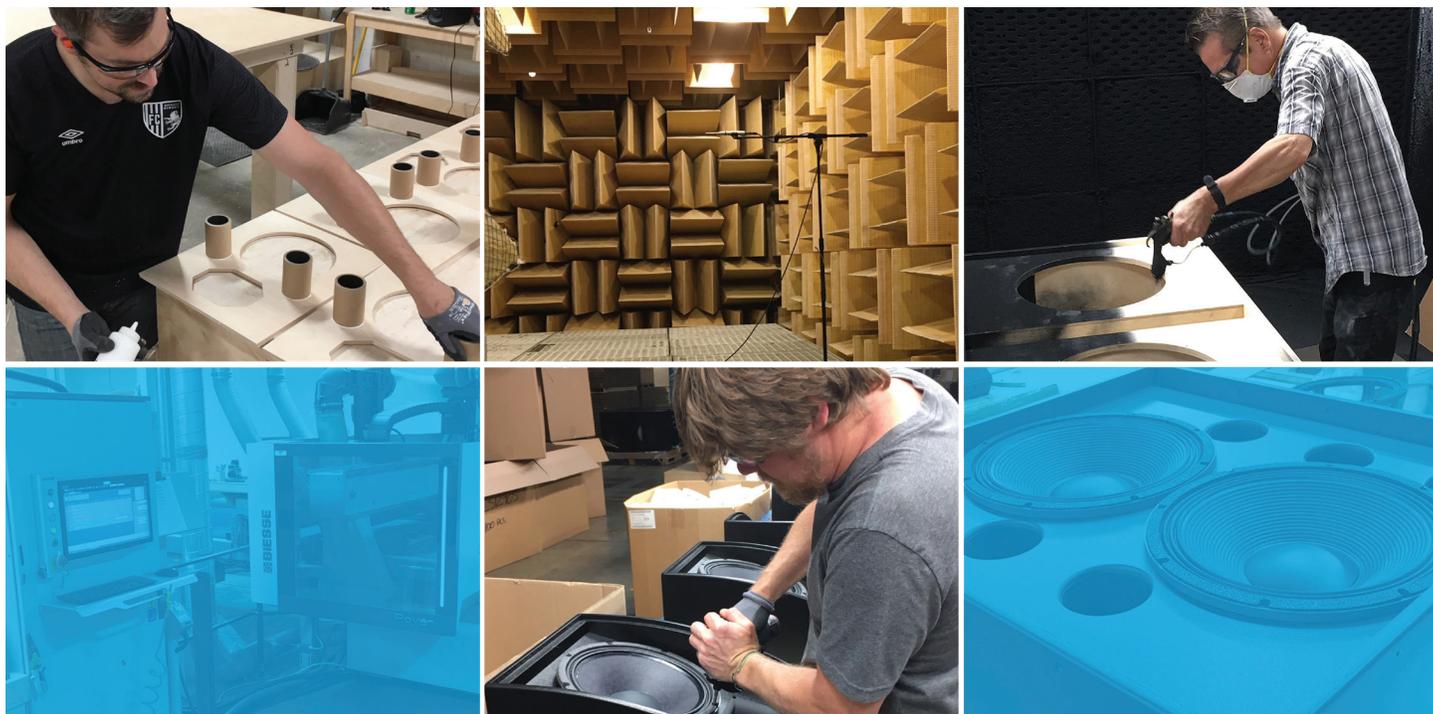


FIG. 13
DOLBY SYSTEM 136
@ 10KHZ

DIRECT SPL
(DB)



Industry standard technical data



Dolby quality reliability and specifications

Design, test and measure standards

Reliability and quality assurance

Dolby loudspeakers are subjected to extensive testing during the design and development phases. Many types of electrical and mechanical test are used to verify the performance, reliability, and overall quality of our design. Such tests exercise the product at high drive levels in difficult environmental conditions for extended periods of time.

Dolby carries this same philosophy into our manufacturing processes, where every loudspeaker that is produced is thoroughly tested and inspected for performance and build quality. The end result is a well-engineered product that will provide years of reliable operation.

Improved product reliability

(Adhering to UL and AES standards)

Dolby strives to make best-in-class products that meet or exceed many industry standards. Our loudspeakers are designed to comply with international safety standards

and the audio performance is verified using various industry benchmarks such as Audio Engineering Society (AES), CEA, and IEC recognized methodologies. Utilizing such safety standards and audio measurement standards allows Dolby to design and produce safe products that are well documented and backed by industry accepted practices.

Regarding the following specifications and their footnotes

Dolby provides clear and understandable loudspeaker specifications with extensive footnotes that detail the test methodologies selected for each of our published specifications. While not the norm within the industry, Dolby believes providing such clarity and openness in loudspeaker specifications will aide customers, users, and integrators to better understand our product and the performance expectations.

Industry standard technical data

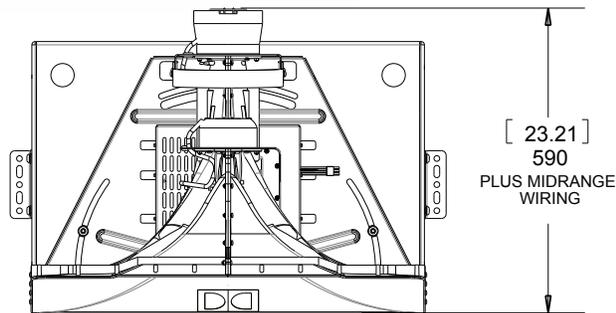


Dolby CS136MH Mid-High Screen Channel Speaker

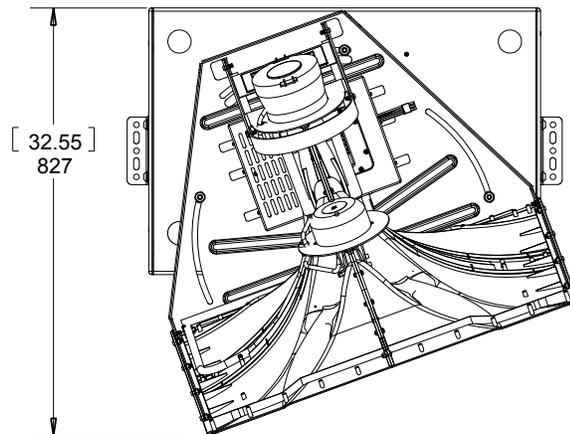
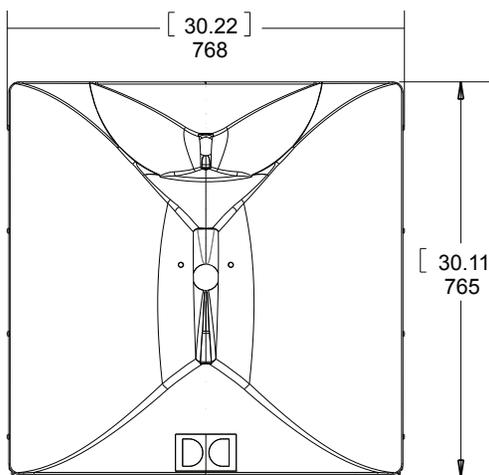
Specifications*

This documentation applies to CID1024

The English version of this document is the only legally binding version. Translated versions are not legally binding and are for convenience only.



PAN/TILT
Straight and level



PAN/TILT
20° right, 20° down

Industry standard technical data

Dolby CS136MH Mid-High Screen Channel Speaker

Specifications, cont.*

Frequency Range ¹	400Hz - 20kHz	<ol style="list-style-type: none"> 1. +3dB/-6dB in full space conditions using recommended processing 2. Horizontal Top and Vertical -6dB averaged to on-axis response. Horizontal Bottom -9dB averaged to on-axis response for near-field proximity compensation 3a. Measured with 12dB crest IEC 60268-1 noise @ 2.83Vrms in whole space conditions with recommended HPF and a 48dB BW LPF at the rated frequency range of the system 3b. Measured with 12dB crest pink noise @ 2.83Vrms in whole space conditions. MF used recommended HPF and LPF. HF used recommended HPF and a 48dB BW LPF at the rated frequency range of the system 4a. 12dB crest IEC 60268-1 noise for 2-hours with recommended HPF, calculated power based on rated impedance 4b. 12dB crest pink noise for 2-hours with recommended HPF and LPF, based on AES2-2012 standard, calculated power based on rated impedance. MF used recommended HPF and LPF. HF used recommended HPF and a 48dB BW LPF at the rated frequency range of the system 5a. Calculated from rated sensitivity and power 5b. MF and HF calculated from rated sensitivity and power. Total SPL is presented as a non-coherent summation 6a. Measured average power over 5 seconds at the rated Vrms using 12dB crest IEC noise with recommended HPF and LPF. This measured power draw from the amplifier is useful for estimating amplifier sizing in overall system design 6b. Measured average power over 5 seconds at the rated Vrms using 12dB crest pink noise with recommended HPF and LPF. This measured power draw from the amplifier is useful for estimating amplifier sizing in overall system design 7a. Measured Peak SPL over 5 seconds at rated Vrms using 12dB crest IEC noise with recommended HPF 7b. MF and HF measured Peak SPL over 5 seconds at rated Vrms using 12dB crest pink noise. MF used recommended HPF and LPF. HF used recommended HPF and a 48dB BW LPF at the rated frequency range of the system. Total peak SPL is presented as a non-coherent summation.
Coverage Window (Asymmetrical) ²	55° top H, 100° Bottom H, 50 ° V	
Passive Mode Rated Impedance	8 Ohms	
Bi-amp Mode Rated Impedance	MF 8 Ohms / HF 8 Ohms	
Passive Mode Sensitivity @ 1 Watt ^{3a}	104dB	
Bi-amp Mode Sensitivity @ 1 Watt ^{3b}	MF 112dB / HF 106dB	
Passive Mode Power Handling ^{4a}	500W @ 63.2Vrms	
Passive Mode Power Draw ^{6a}	195W	
Bi-amp Mode Power Handling ^{4b}	MF 125W @ 31.6Vrms / HF 75W @ 24.5Vrms	
Bi-amp Mode Power Draw ^{6b}	MF 100W / HF 60W	
Passive Mode Maximum Continuous SPL @ 1 meter ^{5a}	131dB	
Passive Mode Measured Acoustic Peak SPL @ 1 meter ^{7a}	142dB	
Bi-amp Mode Maximum Continuous SPL @ 1 meter ^{5b}	133dB (MF 133dB + HF 125dB)	
Bi-amp Mode Measured Acoustic Peak SPL @ 1 meter ^{7b}	143dB (MF 142dB + HF 135dB)	
Transducers	MF - 2" exit / 3.5" voice coil ring radiator HF - 1.4" exit / 3" voice coil titanium diaphragm	
Enclosure	Asymmetrical dual-entrant horn	
Accessories	BKT.136 Tie plate kit (included with CS136MH)	
Dimensions (Unit)	30.11" (765 mm) H 30.22" (768 mm) W 23.21" (590 mm) D	
Weight (Unit)	48.5 lb. (22 kg)	
Dimensions (Shipping)	33.25" (845 mm) H 33.50" (851 mm) W 27.31" (695 mm) D	
Weight (Shipping)	75 lb. (34.02 kg)	

Industry standard technical data

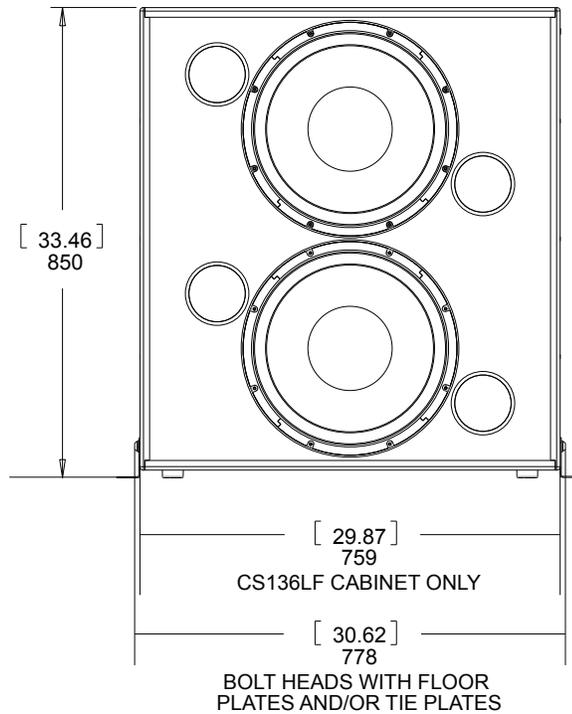
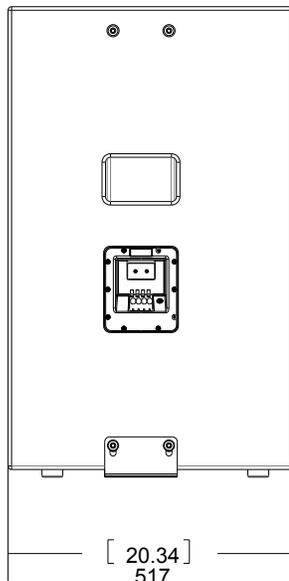


Dolby CS136LF Low-Frequency Screen Channel Speaker

Specifications*

This documentation applies to CID1025

The English version of this document is the only legally binding version. Translated versions are not legally binding and are for convenience only.



Industry standard technical data

Dolby CS136LF Low-Frequency Screen Channel Speaker

Specifications*

Frequency Range ¹	31Hz - 400Hz	<ol style="list-style-type: none"> -6dB in half space conditions, HF determined by recommended processing -10dB in half space conditions Horizontal and Vertical -6dB relative to on-axis response within rated frequency range Measured with 12dB crest pink noise @ 2Vrms in half space conditions with recommended HPF and LPF 12dB crest pink noise for 2 hours with recommended HPF and LPF, based on AES2-2012 standard, calculated power based on rated impedance Calculated from rated sensitivity and power Measured average power over 5 seconds at the rated Vrms using 12dB crest pink noise with recommended HPF and LPF. This measured power draw Measured Peak SPL over 5 seconds at rated Vrms using 12dB crest pink noise with recommended HPF and LPF
Usable LF Response ²	28Hz	
Coverage Window ³	120° H, 80° V	
Rated Impedance	4 Ohms / 8 Ohms (bi-wire mode)	
Sensitivity @ 1 Watt ⁴	102dB	
Power Handling ⁵	1400W @ 74.8Vrms	
Power Draw ⁷	1070W	
Maximum Continuous SPL @ 1 meter ⁶	133dB	
Measured Acoustic Peak SPL @ 1 meter ⁸	142dB	
CS136LF	(Bottom LF SYS136 only)	
Processing Sensitivity @ 1 Watt ⁴	100dB	
Power Handling ⁵	900W @ 60Vrms	
Power Draw ⁷	640W	
Maximum Continuous SPL @ 1 meter ⁶	129dB	
Measured Acoustic Peak SPL @ 1 meter ⁸	140dB	
Transducers	15" x 2 (4" copper voice coils, FEM optimized motor/suspension and cooling system, resonance-free cast-aluminum basket)	
Input	Spring terminal block (Adv. Input Plate w/flip-card)	
Enclosure	Baltic Birch	
Accessories	BKT.FLR Floor bracket kit (sold separately)	
Dimensions (Unit)	33.46" (850 mm) H 29.87" (759 mm) W 20.34" (517 mm) D	
Weight (Unit)	155 lb (70.30 kg)	
Dimensions (Shipping)	37.78" (960 mm) H 35.24" (895 mm) W 26.57" (675 mm) D	
Weight (Shipping)	167 lb. (75.75 kg)	

Industry standard technical data

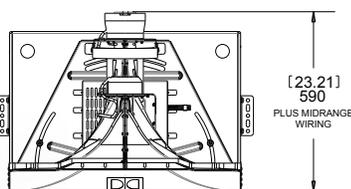


Dolby System 136 Screen Channel Speaker

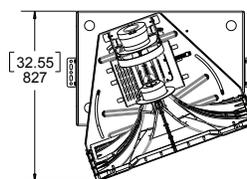
Specifications*

This documentation applies to CID1024 and CID1025

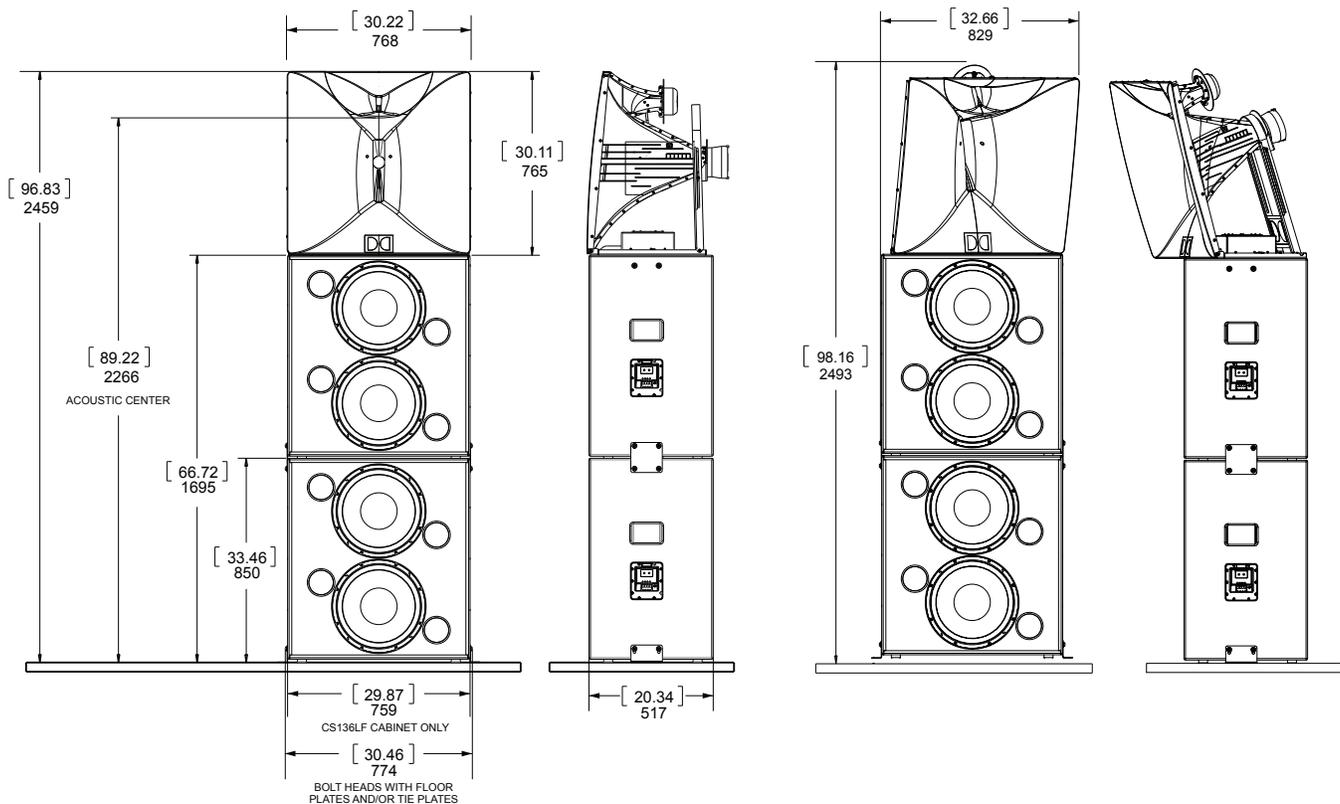
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PAN/TILT
Straight and level



PAN/TILT
20° right, 20° down



Industry standard technical data

Dolby System 136 Screen Channel Speaker Specifications*

Frequency Range ¹	31Hz - 20kHz	<ol style="list-style-type: none"> 1. +3dB/-6dB in half space conditions using recommended processing 2. -10dB in half space conditions 3a. Horizontal Top and Vertical -6dB averaged to on-axis response. Horizontal Bottom -9dB averaged to on-axis response for near-field proximity compensation 3b. Horizontal and Vertical -6dB relative to on-axis response using both LF cabinets operating with their respective recommended processing 4a. Measured with 12dB crest IEC 60268-1 noise @ 2.83Vrms in whole space conditions with recommended HPF and a 48dB BW LPF at the rated frequency range of the system 4b. Measured with 12dB crest pink noise @ 2.83Vrms in whole space conditions. MF used recommended HPF and LPF. HF used recommended HPF and a 48dB BW LPF at the rated frequency range of the system 4c. Measured with 12dB crest pink noise @ 2Vrms in half space conditions with recommended HPF and LPF respectively for top and bottom cabinets 5a. 12dB crest IEC 60268-1 noise for 2 hours with recommended HPF, calculated power based on rated impedance. 5b. 12dB crest pink noise for 2-hours with recommended HPF and LPF, based on AES2-2012 standard, calculated power based on rated impedance. MF used recommended HPF and LPF. HF used recommended HPF and a 48dB BW LPF at the rated frequency range of the system 5c. 12dB crest pink noise for 2-hours with recommended HPF and LPF respectively for top and bottom cabinets, based on AES2-2012 standard, calculated power based on rated impedance 6a. Calculated from rated sensitivity and power. MF and HF maximum SPL rating summed as non-coherent 6b. MF and HF calculated from rated sensitivity and power. Total SPL is presented as a non-coherent summation 6c. Top and Bottom LF calculated from rated sensitivity and power. Total SPL is presented as a coherent summation 6d. Dual LF coherent sum combined with MF and HF individually. Total SPL is presented as a non-coherent summation
Usable LF Response ²	28Hz	
CS136MH Coverage Window (Asymmetrical) ^{3a}	55° top H, 100° bottom H, 50° V	
Stacked CS136LF Coverage Window ^{3b}	120° H, 60° V	
CS136MH Passive Mode Rated Impedance	8 Ohms	
CS136MH Bi-amp Mode Rated Impedance	MF 8 Ohms / HF 8 Ohms	
CS136LF Rated Impedance (Indiv. cabinets)	4 & 8 Ohms (bi-wire mode)	
CS136MH Passive Mode Sensitivity @ 1 Watt ^{4a}	104dB	
CS136MH Bi-amp Mode Sensitivity @ 1 Watt ^{4b}	MF 112dB / HF 106dB	
CS136LF Stacked Cabinet Sensitivity @ 1 Watt ^{4c}	Top 102dB / Bottom 100dB	
CS136MH Passive Mode Power Handling ^{5a}	500W @ 63.2Vrms	
CS136MH Bi-amp Mode Power Handling ^{5b}	MF 125W @ 31.6Vrms / HF 75W @ 24.5Vrms	
CS136LF Stacked Cabinet Power Handling ^{5c}	Top 1400W @ 74.8Vrms / Bottom 900W @ 60Vrms	
CS136MH Passive Mode		
Maximum Continuous SPL @ 1 meter ^{6a}	131dB	
CS136MH Bi-amp Mode		
Maximum Continuous SPL @ 1 meter ^{6b}	MF 133dB (MF 133dB + HF 125dB)	
CS136LF Stacked Cabinet		
Maximum Continuous SPL @ 1 meter ^{6c}	138dB (Top 133dB + Btm 129dB)	
SYS136 Maximum		
Summed Continuous SPL @ 1 meter ^{6d}	139dB	
Input	Spring terminal block (Adv. Input Plate w/flip-card)	
Enclosure	Baltic Birch	
Accessories	BKT.136 Tie plate kit (included with CS136MH) BKT.FLR Floor bracket kit (sold separately)	
Dimensions	96.83" (2459 mm) H 30.22" (768 mm) W 23.21" (590 mm) D	
Weight (System Stack)	358.5 lb. (162.61 kg)	

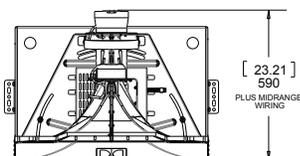
Industry standard technical data



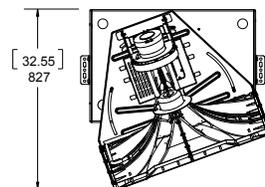
Dolby System 133 Screen Channel Speaker Specifications*

This documentation applies to CID1024 and CID1025

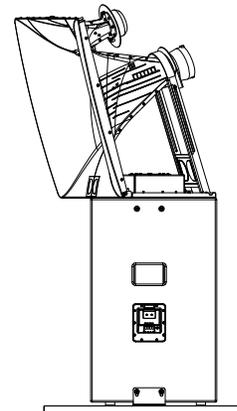
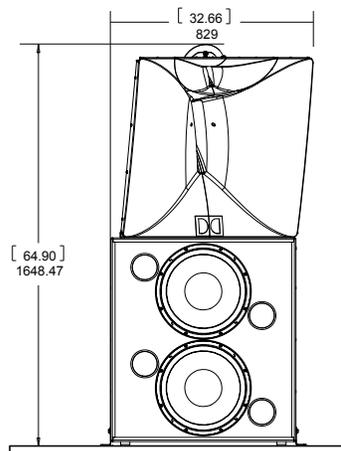
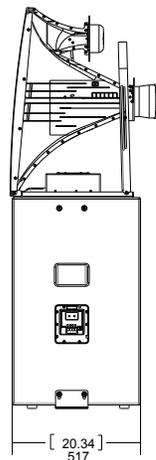
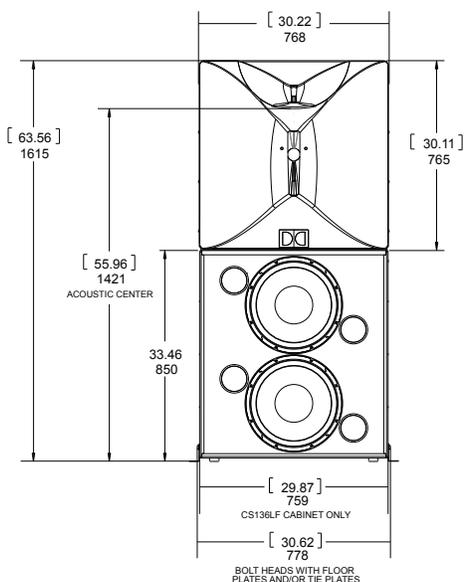
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PAN/TILT
Straight and level



PAN/TILT
20° right, 20° down



Industry standard technical data

Dolby System 133 Screen Channel Speaker Specifications*

Frequency Range ¹	31Hz - 20kHz	<ol style="list-style-type: none"> 1. +3dB/-6dB in half space conditions using recommended processing 2. -10dB in half space conditions 3a. Horizontal Top and Vertical -6dB averaged to on-axis response. Horizontal Bottom -9dB averaged to on-axis response for near-field proximity compensation 3b. Horizontal and Vertical -6dB relative to on-axis response using both LF cabinets operating with their respective recommended processing 4a. Measured with 12dB crest IEC 60268-1 noise @ 2.83Vrms in whole space conditions with recommended HPF and a 48dB BW LPF at the rated frequency range of the system 4b. Measured with 12dB crest pink noise @ 2.83Vrms in whole space conditions. MF used recommended HPF and LPF. HF used recommended HPF and a 48dB BW LPF at the rated frequency range of the system 4c. Measured with 12dB crest pink noise @ 2Vrms in half space conditions with recommended HPF and LPF respectively for top and bottom cabinets 5a. 12dB crest IEC 60268-1 noise for 2 hours with recommended HPF, calculated power based on rated impedance. 5b. 12dB crest pink noise for 2-hours with recommended HPF and LPF, based on AES2-2012 standard, calculated power based on rated impedance. MF used recommended HPF and LPF. HF used recommended HPF and a 48dB BW LPF at the rated frequency range of the system 5c. 12dB crest pink noise for 2-hours with recommended HPF and LPF respectively for top and bottom cabinets, based on AES2-2012 standard, calculated power based on rated impedance 6a. Calculated from rated sensitivity and power. MF and HF maximum SPL rating summed as non-coherent 6b. MF and HF calculated from rated sensitivity and power. Total SPL is presented as a non-coherent summation 6c. Top and Bottom LF calculated from rated sensitivity and power. Total SPL is presented as a coherent summation 6d. Dual LF coherent sum combined with MF and HF individually. Total SPL is presented as a non-coherent summation
Usable LF Response ²	28Hz	
CS136MH Coverage Window (Asymmetrical) ³	55° top H, 100° bottom H, 50° V	
CS136MH Coverage Window	120° H, 60° V	
CS136MH Passive Mode Rated Impedance	8 Ohms	
CS136MH Bi-amp Mode Rated Impedance	MF 8 Ohms / HF 8 Ohms	
CS136LF Rated Impedance	4 & 8 Ohms (bi-wire mode)	
CS136MH Passive Mode Sensitivity @ 1 Watt ^{4a}	104dB	
CS136MH Bi-amp Mode Sensitivity @ 1 Watt ^{4b}	MF 112dB / HF 106dB	
CS136LF Sensitivity @ 1 Watt ^{4c}	102dB	
CS136MH Passive Mode Power Handling ^{5a}	500W @ 63.2Vrms	
CS136MH Bi-amp Mode Power Handling ^{5b}	MF 125W @ 31.6Vrms / HF 75W @ 24.5Vrms	
CS136LF Power Handling ^{5c}	1400W @ 74.8Vrms	
CS136MH Passive Mode		
Maximum Continuous SPL @ 1 meter ^{6a}	131dB	
CS136MH Bi-amp Mode		
Maximum Continuous SPL @ 1 meter ^{6b}	133dB (MF 133dB + HF 125dB)	
CS136LF Maximum Continuous SPL @ 1 meter ^{6b}	133dB	
SYS136 Maximum		
Summed Continuous SPL @ 1 meter ^{6d}	136dB	
Input	Spring terminal block (Adv. Input Plate w/flip card)	
Enclosure	Baltic Birch	
Accessories	BKT.136 Tie plate kit (included with CS136MH) BKT.FLR Floor bracket kit (sold separately)	
Dimensions	63.56" (1,615mm) H 30.22" (768 mm) W 23.21" (590 mm) D	
Weight (System Stack)	203.5 lb (92.30 kg)	

Professional Cinema System 133/136

Screen channel speakers

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This documentation applies to
CID1024, CID1025 and BKT.FLR
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change without notice.